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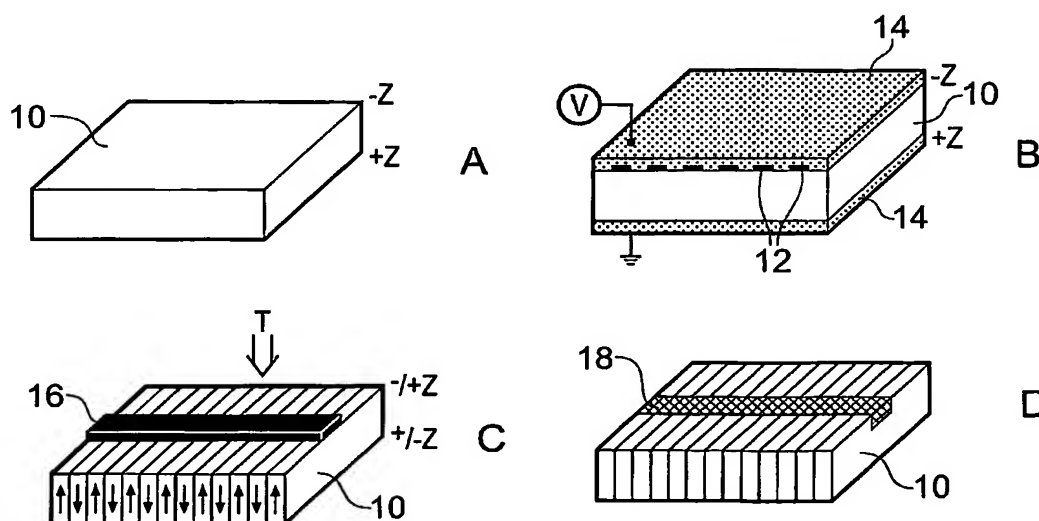
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(54) Title: **FABRICATION OF OPTICAL WAVEGUIDES IN PERIODICALLY POLED LITHIUM NIOBATE**



(57) Abstract: A method of fabricating an optical waveguide (18) comprises providing a sample of lithium niobate (10) that has one or more periodically poled gratings made by electric field poling, applying a patterned surface layer of metallic zinc (16) to a z-face of the sample so that the layer (16) has a pattern corresponding to an intended pattern of waveguides (18) to be written into the lithium niobate, and heating the sample to diffuse the metallic zinc (16) into the lithium niobate so as to form an optical waveguiding structure (18) within the sample.



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